How ATS Harms Hiring Managers, Recruiting Companies, and Candidates: 3 Critiques + Solution and References

I’m about to make an overall attack of recruitment applicant tracking software and systems (ATS) but I’d like a few things clear at the beginning.

Disclaimer 1) I’m not intending to disagree with any particular list of ATS benefits. They exist, I agree.

Disclaimer 2) Any particular critique will not apply to every ATS out there OR every package that you pay for. That being said, if you are having trouble hiring, maybe it's time to make sure this isn't you.

The *goal* here is to promote critically examining the modern era of hiring practices that has sprung up in perhaps the last 15 years. It's about getting past the honeymoon period of AI-powered ATS to examine critically its flaws. This is about harm to an economic system of candidates, employers and recruiters and may very well be so misunderstood as to cause **millions of dollars** of harm to basically every group of stakeholders involved.

This installment of my overall argument I’ll call Part 1 – the Inflexibility Issue.

The Inflexibility Issue

1) Inflexibleness of tech-based screening. The yes/no - ness of computers, what a 1 and a 0 boil down to. Here I'm talking about the aspect of your hiring process that goes on before a human being sets eyes on a candidate's resume. The part where a hiring manager tells a recruiter, "Ok we need a candidate with these 5 qualities definitely" and the recruiter plugs it into their system to go out to job boards. Take a basic quality of "2-3 years of experience."

"Awesome" you think, "I can weed out candidates without the basics without having to waste my time by using our automated recruiting software"

Ok, maybe. But how is the question phrased to the candidates? Did you word your question to be legally sound, or understandable to a candidate or both? Is it *really* both? A hint at an issue I'll get to later but relevant to this aspect of requiring a specific answer to be seen. Does your computer system recognize that it **should** weed out those without the minimum experience but that it **shouldn't** weed out people that exceed that experience?

"Yes of course it knows not to weed out people that exceed that experience."

I mean ok, sure, but how do you *know*? It's my understanding that a great HR person and a great computer programmer aren't one and the same usually. Also, I'm inclined to believe that companies aren't in the habit of sharing proprietary software they worked hard on, only in giving really amazing promises about the results that software can generate.

In reality, according to a Harvard Business School study published in 9/2021 "**(88%) of employers agree, telling us that qualified highskills candidates are *vetted out* of the process because they do not match the exact criteria established by the job description. That number rose to 94% in the case of middle-skills workers."** I have to ask – is being so rigid

with job qualifications *actually* helping any of the stakeholders? I mean sometimes the sound bite selling point “we’ll find you someone who exactly matches your qualifications!” makes a lousy overall outcome in terms of filling missing talent vacuums. In fact, data bears out this assessment. “According to the Federal Reserve Economic Data the number of unfilled job roles has doubled since 2001 from 5 million to 10 million.”

Say you make it a yes-no question. A person will say “yes” properly when asked if they are a US Citizen, or have “at least” this much experience. This - at least - speaks to the upside of keeping things simple and strict with ATS. Maybe and maybe not.

You can talk about how ATS weeds out human flaws of missing things, but it kind of doesn’t in that it can’t account for simple human user error. How many good candidates were filling out their app on a 15-minute break, between meetings and clicked a button because they were busy and skimmed assuming it was the one answer needed and it was the other? Especially with legalese ridden questions that these sorts of yes/nos tend to be. Human eyes – in their wildly pliable nature – can catch these kind of user errors with a speed and efficiency that yes/no computers just can’t yet.

And now your company loses the revenue a good candidate in the role can bring them, must spend more on hiring, AND must train folks who aren't suited for a role to cover it while they wait. The inflexibility of ATS just cost your company thousands for this one role. **Inflexible ATS that requires certain answers before a resume is seen by a person has genuine financial losses associated with it.** Another way to look at it is the diminishing returns of seeking the perfect fit for a role vs a good fit for the role. Are these losses greater or less than the costs of not using ATS? It's a good question, right? Are you having hiring issues lately?

In essence - ATS can make the hunt for the perfect candidate an enemy of the hunt for a good candidate. How expensive are unfilled roles and hiring for your company? Harvard Business School estimated that there were about 27.4 million hidden workers in an article they called "Hidden Workers: Untapped Talent." The Federal Reserve for Economic Data implies here that there were over 11 million unfilled job vacancies in the US in 2022. Realistically, it's often framed as a community and social service when tapping into these workers that our flawed recruiting system currently creates is really a very clear-eyed return on investment.

There is nothing nefarious in this situation, it's all understandable. Industries trying to save money outsource hiring. Recruiters trying to bolster their numbers buy ATS packages. The ATS company is trying to sell more subscriptions, so it promises candidates to recruiters that exactly meet requirements with zero effort on the recruiting company people. But in the ATS company meeting its promise to the recruiting company, the recruiting company may not be able to meet numbers for the hiring managers. But they don't want to blame their systems and lose the contract for being incompetent AND they don't want to blame the hiring managers for making the wrong "requirements" and lose the contract for being rude, so they do what we all do and blame the stakeholder not in the room. "Nobody wants to work these days" and "there's just not enough talent" becomes the mantra of everyone assuming the expertise and investigative diligence of someone else and bogged down by putting out fires for unfilled roles and not meeting numbers.

Outside of this, a stressed-out HR person or recruiter is even more likely to be interested in the "time saving AI powered ATS" that could potentially have put them in this issue in the first

place due to the non-negotiables of its nature. **A negative outcome of using ATS is going to feed the use of ATS to save time from the troubled hiring outcomes it itself creates.**

But this issue gets outside of the problem with inflexibility and runs straight into -

The Language Problem

Again, I'm focusing on the problems associated with good candidates whose resumes will never be seen by a human being, why that could be, and what problems that can cause for your company and hiring.

1) **Fonts and Design**-First place in this category goes to all those resumes that go unseen because the ATS program that the potential employer or recruiter purchased can't read the font of a resume or some technical aspect of the way it's designed. As noted here by RMS in 2019 "There are some Applicant Tracking Systems that are not familiar with common fonts like Times New Roman etc. " As such you can see several qualified applicants removed from consideration due to the wrong font. You can argue that applicants should know, but really how? Where is it advertised which system you have? Do *you* know? If we are insisting on using ATS we should probably put in the job description resume fonts and designs that are acceptable or not.

2) **Keywords** Two sides come with this keywords coin. Applicant tracking systems by and large rely on the use of keywords to categorize and organize their 1000s of applications. Therefore, very qualified applicants without the correct keywords will never be seen. This isn't a nothing-burger issue. Think about the level of transferrable skills that a person knows exist between "Training Coordinator," "Learning and Development Coordinator" and "Educator." A person will see that these are relatable in a millisecond (Again – humans are weirdly rather efficient at

judging the capabilities of other humans actually pretty quickly).We know for sure that people without the right keywords get edited out. (Humans are rather less efficient at understanding how their instinctual knowledge works and being able to articulate it in an algorithm.) As mentioned Harvard Business School estimated that we have about 27.4 *million* untapped workers in the US.

Or on the flipside underqualified candidates with the right financial resources to buy the latest resume writer, or Jobscan subscription to stuff their resumes with the right words for each app (100 dollars per resume) may find themselves at the top of the list. You basically create socio-economic bias by using ATS not because the system itself is necessarily socio-economically biased (more on that later) but because like the test-prep given to wealthy SAT test takers, the right training provided by money gives one a great big leg up. Even when you don't have the best money but you are at least – somewhat able to search some of it out. Wired wrote an article about it here. Other places - like Forbes and Linkedin's own writers - have written about it here, here, and here. They all give bits of the same generalized points but also say similar things. If you have the time of day to spend changing your resume to meet the minutia of the 200 plus applications (Zippia.com, 2023), you need to put out to get a job (aka – you are socioeconomically advantaged) you win!

You might argue that money has always given one a leg up in the job hunt, but I'd counter that yes, but not to the degree it does with ATS. By standardizing the resume process you create the kind of systematic job prep need that occurs with things like the test prep industry. Whether or not they mean to a company is likely to try to find a decent candidate from the ones they interviewed to save money from running the whole process of reading resumes over. As such, the socio-economic bias gets perpetuated into the hiring that was created by the ATS. Harvard

Business School wrote about this bias baked into the algorithm on page 35 of their study in 2021 (page 37 of the pdf) here.

Another aspect of this is that even though hiring managers write *requirements* for jobs, it's impossible to not know that a great number of times these *requirements* are more *desired* than *required*. Every working person can tell you immediately someone who hadn't had all the requirements - maybe themselves - but is now thriving in the role because someone gave them a shot. Uncompromising ATS eliminates this avenue of people filling roles in your company. In fact, according to the Federal Reserve for Economic Data here – the number of unfilled job vacancies in the US was 5 million 2001 around the dawn of the modern automated applicant tracking system. It's only gotten wider since then. In 2022 the number was 11.7 million.

Another piece of this *Language Problem* is related to the distance. I'll call the *Telephone Game* aspect of the *Language Problem*. By the time the head pipefitter on the floor in Chicago has talked to his boss, who talked to her boss, who sat in on the committee for 100 positions open across plants in the US, and passed it along to the HR person on that committee, who talked to the recruiter, who has 100 other HR people in 25 different industries and plugged in the requirements to their ATS for what was "required" are we ***sure*** the correct info was sent out? I mean, yeah email exists in this day and age so, yes, the correct **words** could have been copied, but like that's a lot of different people, across potentially a variety of work cultures and languages and companies.

To make a smaller version of the specifics of the *Telephone Game* problem, I, a TESOL person with at least 10 years of experience, once made an application to present at International TESOL which was being held in maybe Baltimore that year. Because I'd spent the last 2 years teaching at

my Intensive English program in Kansas in the application to TESOL International I referred to my workplace as IE because at our university we always talked to each other and referred to as our IE program. My application to present at the conference was rejected because I had used the language IE instead of IEP. That was literally specifically what was cited.

I'll repeat. *In my very specific academic field,* ***a small misplacement of the letters in an acronym*** did not come across correctly to other people in my same country in my same field of higher ed. Just ***think*** of how much more serious that issue will be with ATS - a non-thinking system added on, designed by humans who aren't familiar with TESOL. It's a mind-boggling magnification of this issue. For the record, I continue to think that TESOL was right to reject my proposal. It was an honest mistake, but I still understood the reasoning. I say it only to illustrate how two people very familiar in the same relatively small field can run into communication issues.

You can counter me by saying "This has been considered" and I'd counter you with a story by a good friend who has been in the management of multiple big manufacturing companies. In his lingo, on the floor of a manufacturing plant, they *always* refer to themselves as working in a "plant." So, this particular company hired a multinational recruiting company that plugged info in and tried to get applicants with "2-3 years of plant experience at minimum." After 4 weeks and x thousands of dollars every applicant sent to the hiring manager had experience and education in botany and greenhouses. Folks on the *manufacturing* plant floor, who had spoken to friends and relatives who had many years of manufacturing plant experience, were never seen. For the record, this recruiting company still works with this very big and quite diverse multimillion-dollar manufacturing company. They had to redo the entire process and hired no one.

We can laugh here – but there's a bit of a larger tragedy at play here. Of people who were a little less hopeful when they went home to their spouses and kids. Of people who tried a little less hard for the next while and missed production goals and growing cultural stagnation.

How many times has this *Telephone Game* aspect of the *Language Problem* been replicated to a smaller degree a thousand times over and not caught because no one noticed or had the time/resources to spare to care. It's probably why the US quietly **doubled** the number of unfilled roles, while supposedly employing efficient recruiting software to *save money*.

Neither the recruiting company nor the ATS company has any incentive to share with an employer how often this happens if they even track this kind of issue, and the further the distance gets between a hiring manager and the candidates applying the least likely they are going to be able to even untangle the web to track it. This lack of data can occur not because of a red room of villains stroking pretty cats, but because everyone assumes the time and investigative diligence of someone else. Without acknowledging it we've all stepped into a quagmire of crappy results that hurts all of us, candidate, recruiters AND employers that is fueled by lack of knowledge.

Remember - every stakeholder benefits when finding the right people/company is easier.

The Inefficiency Issue

The last part of my critique I'd like to label the - *Inefficiency Issue.*

First off. Let's all agree that potentially one of the reasons many employers started using ATS was to improve hiring efficiency. You want your company to have to use the least amount of

effort possible to get the best possible candidate pool and therefore the best worker possible. This is a case of really everyone winning. I'd think that if this were happening there would be real academic data reporting these kinds of successes.

Yet, Michael R. Dalton and Jeffrey A. Groen research economists at the US Bureau of Labor Statistics Office of Employment and Unemployment Statistics failed to notice these happy outcomes. They say here in November 2020 that "Data have rarely been available to explore, in-depth, the mechanisms behind job searches. *In particular, little is known about the number of applications sent, job interviews conducted, and job offers made over the job-search spell*." Clearly, there is room to grow to demonstrate the efficacy of ATS.

US unemployment rates according to the World Bank, have risen and fallen for a variety of reasons since 1998 but overall they've gone up from a start of 4.5% in 98 to a final of 5.46% in 2022 with a high of 9.6% in 2010. There's been no clear pattern of correlation with the growth of ATS if only a general overall increase. In addition, according to the Statista.com, the average duration of unemployment has steadily increased from 1990-2022 from 12 weeks to 22 weeks. If it's generally agreed that the corporate applicant tracking system really started to be used in 1998 when the length of unemployment (14.5 weeks) should have gone down. **In fact, since the rise of the applicant tracking system in 1998,** according to the Bureau of Labor Statistics, **the length of unemployment for an average US worker job search has increased from 14.5 weeks to 22.6 weeks with a high of 39 weeks during the pandemic.** Correlation is not causation but it certainly doesn't make a case for the stunning efficiency of ATS.

Furthermore, Reuters reported here that, "The U.S. labor market has become steadily less dynamic since 1990, with workers seemingly locked into particular jobs" and here according to

the Federal Reserve Economic Data the number of unfilled job roles has doubled since 2001 from 5 million to 10 million. Again, this proves only correlation, not causation, and the job market is affected by a wide number of things. Nevertheless, it definitely doesn't make a case for the efficacy of ATS usage, but instead the exact opposite if anything.

Bias -- aka an unnecessarily small candidate pool based on outdated knee-jerk reactions that financially benefits no one- is also a reason to use ATS. Yet, it'd be wiser to consider that ATS - like any automated software or AI - is only a tool. Like a hammer. If the builder doesn't create it properly or the user doesn't wield it correctly, you'll still hurt the wrong people and create the same outcomes. This has demonstrably happened with Amazon's recent self-created ATS. Reuters reported how they ended up scrapping their self-created recruiting software in 2015. As Nahir Shah, who teaches machine learning at Carnegie Mellon University, said at the time "How to ensure that the algorithm is fair, how to make sure the algorithm is really interpretable and explainable - that's still quite far off.'

In terms of user-based errors Dave Zeilinski, a journalist working for the Society for Human Resource Management (SHRM) said in a March 2022 article "Some AI-based systems may be increasing the worker shortage they were built to address." Harvard Business School (HBS) and Accenture wrote an article called *Hidden Workers: Untapped Talent* in 2021 that detailed the nature of this problem.

Joseph Fuller, an HBS professor of management said, "The study found organizations continue to use filters in their recruiting technologies that are inferential in nature. They infer, for example, that someone who hasn't been employed for a certain number of months may not have a good work ethic or the needed skills. There's often a lack of screening filters based on the

attributes and skills of workers who've proven they're good at a job rather than those that just *imply* they may be good at a job." He also pointed out that they often use proxies such as college degrees to demonstrate work ethic or dedication. And on the flip side gaps in full-time employment to demonstrate the opposite and exclude candidates regardless of their qualifications or the reasons for that unemployment.

The study concluded that the hidden US talent pool, which was often excluded included mothers, caregivers, people who've suffered a long-term illness or disability, people from underprivileged upbringings, veterans, and immigrants as well as relocating spouses. Their estimate was that more than 27 million people fell into this pool of hidden talent and that "The sheer magnitude of the hidden worker population reveals the potential impact that their substantial re-absorption into the workforce would have."

They further said "Our conclusion rests on the striking irony that companies ***consistently express concern about the availability and quality of the talent available to them while acknowledging that their hiring processes exclude qualified candidates from consideration,***" the report authors wrote. **"**It's unimaginable that management would tolerate an equivalent error rate in mission-critical processes associated with operations, supply chain management, distribution or customer service."

Inefficiency in terms of the results of ATS is a problem, and **it feeds itself.** When workers are required to send out more applications to **get** an interview, as a result companies are inspired to use more ATS to help cut down on their workload. Essentially buying more subscriptions to ATS is a result of the problems misunderstood use of ATS creates. Harvard noticed this too, which you can find here when it said "By the early 2010s, the average job posting yielded almost 120

applicants. By the end of the decade, jobs posted by corporations received an average of 250 applications...The irony, however, is they have simultaneously exacerbated the very talent shortage they were intended to address."

The Start of a Solution

So given all this, what does one do? Again, the idea isn't necessarily to throw the baby out with the bathwater. The bell is rung. We can't unring it. What we need is real data - preferably from someone who's not paid to make sure that the increasingly failing processes we currently use, continue. We need a clear picture of what's going on so we can use our tools (software) most wisely.

Luckily the ACLU has helped out. As of March 28, 2020 in *Sandvig vs Barr* a federal court has ruled that research aimed at uncovering whether online algorithms result in racial, gender, or other discrimination does not violate the Computer Fraud and Abuse Act (CFAA). You can read more on the ACLU website about the ruling here. Essentially it protects the right of researchers like Christian Sandvig, Director of the Center for Ethics, Society and Computing and Professor of Information at the University of Michigan, as well as Christo Wilson and Alan Mislove computer science professors at Northeastern University to do research and get data on the effects of these new software and programs. Professor Karrie Karahalios, a professor of computer science at the University of Illinois stated that, “This outcome reinforces not only the ability, but the need to examine unintended consequences of algorithmic systems that affect the majority of our population today. In essence, more public research on the efficacy of these programs is needed as well as their wider applications to determine whether what appears on the outset like a solution provides the answer it claims.

This coincides nicely with what I hope will be a new commercial endeavor I mentioned here. I propose partnering with others or supporting others to create a kind of company that audits hiring practices, which may be equivalent perhaps to banks that hire people to attempt to test their security by breaking into them. Safe banks are a public good and steady reasonable hiring practices **also** are a public good. Helping recruiters know what works and what doesn't, helps their business and helps employers. Giving advice to software writing companies about how their softwares are being used and employed so that they can better account for quirks, helps them. Helping people who deserve a chance get hired, helps people.

Everyone wins when hiring is easier.

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